

19990404.ba v02\_n489.bam.990404 v02\_n490.bam.990404

>From ???@??? Sun Apr 04 05:34:55 1999  
Message-Id: <199904040635.AAA29375@sco.theporch.com>  
Date: Sun, 4 Apr 1999 00:34:56 CST  
From: Old Tube Radios <boatanchors@theporch.com>  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: BOATANCHORS digest 2489

## BOATANCHORS Digest 2489

Topics covered in this issue include:

- 1) Re: Line Voltage  
by Bill Hawkins <bill@iaxs.net>
- 2) Line Voltage Humbug  
by "Richard" <rbrunner@gis.net>
- 3) Dayton Hamvention 1999  
by Sandra L Knepper <slkst29+@pitt.edu>
- 4) Eimac Date Codes  
by W4FMS@aol.com
- 5) Line voltage today  
by Scott Robinson <spr@earthlink.net>
- 6) BNC TO DUAL BANANA ADAPTOR?  
by JOHN\_SEHRING.parti@ecunet.org (JOHN SEHRING)
- 7) Antique Electronics Supply  
by W6cds@aol.com
- 8) Re: BNC TO DUAL BANANA ADAPTOR?  
by Charles Kadesch <chas@digizen.net>
- 9) LINE VOLTAGE FOR BA'  
by JOHN\_SEHRING.parti@ecunet.org (JOHN SEHRING)
- 10) Re: BNC TO DUAL BANANA ADAPTOR?  
by "P. J. \*Josh\* Rovero" <provero@connix.com>
- 11) Antique Elect Supply  
by W6cds@aol.com
- 12) Re: Vibrator Resuscitation  
by "Richard" <rbrunner@gis.net>
- 13) Re: BNC TO DUAL BANANA ADAPTOR?  
by Al Klase <skywaves@bw.webex.net>
- 14) Re: BNC TO DUAL BANANA ADAPTOR?  
by Bob Roehrig <broehrig@admin.aurora.edu>
- 15) Re: Line voltage  
by "Barry L. Ornitz" <ornitz@tricon.net>
- 16) Re: BNC TO DUAL BANANA ADAPTOR?  
by Garey Barrell <k4oah@mindspring.com>
- 17) RE: BC-1147-A & Asterisk  
by "ROBERT W. DOWNS" <RWDowns\_WA5CAB@compuserve.com>
- 18) Cataloging Carl & Jerry (list)

by mnhopkins@juno.com  
19) HT-32B WANTED  
by Sandy Gerli <angerli@esslink.com>  
20) Ameco 2 Meter Converter Model CB-2  
by <davidh@getnet.com>

-----  
Date: Sat, 3 Apr 1999 15:16:52 -0600 (CST)  
From: Bill Hawkins <bill@iaxs.net>  
Message-Id: <199904032116.PAA11252@citrus.iaxs.net>  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: Re: Line Voltage  
Cc: aguibert@sympatico.ca

My first job was in a blasting cap plant in 1960. Like any explosives plant, the buildings are spread out to prevent propagation of a blast in one building. 13.8 KV was delivered to the center of the plant and transformed to 440 volt ungrounded delta 3 phase. A lab for Government work was added at the edge of the plant. At the benches, line voltage could swing from 90 to 130. This caused false triggering of instruments used to time the electro-explosive devices.

My first project was to plan and execute a regulation system for the lab. A pair of kilowatt servo regulators did the trick. Vacuum tube servo amplifiers driving motors to drive variable transformers, each about a 2 foot cube.

That's where I learned that the power company considers the proper distance for power distribution to be one volt per foot, in order to maintain reasonable regulation with recommended wire sizes.

Regards,  
Bill Hawkins

-----  
Message-ID: <001801be7e1a\$afcab720\$931d29d8@blah>  
From: "Richard" <rbrunner@gis.net>  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: Line Voltage Humbug  
Date: Sat, 3 Apr 1999 16:39:50 -0500  
MIME-Version: 1.0  
Content-Type: text/plain;  
charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

120 volts is not an eternal verity! In the very early years, circa 1903, distribution systems were typically 1000 or 2000 volt at 60, 83, or 133 cycles, with a 500 va transformer at each house, with a secondary voltage of

50 or 100. (1) I suspect these didn't last long. Later there were nominal 110, 115, and 120 volt systems. For many years distribution transformers were designed with either 115 or 120 volt secondaries. System voltage use may be tracked by incandescent lamp sales. (2) It is well known, of course, that lamps are made in several standard-voltage ratings, 110, 115, 120, 125, 130 volts and so on. In 1915, 110 volt lamps accounted for about 50%, 115 volt lamps 30%, and 120 lamps 20% of sales. By 1925, 110 volt lamps were down to 20%, 115 volt lamps 50%, and 120 volt lamps 30% of sales. By 1940, 110 volt lamps had nearly disappeared, 115 volt lamps were 30%, and 120 volt lamps were 70% of sales. Today, in the USA, 120 volts is nearly universal.

Actually, we should be talking about a voltage range rather than a fixed voltage. The nominal system voltage is a voltage you will seldom see! ANSI C84.1 (3) addresses this, and is the result of 65,000 measurements. It gives two voltage ranges; A, and B. Range A is the voltage range that you normally expect to see, and Range B is expected rarely, and should prompt the power company to take action. Presently, the nominal voltage is 120 volts.

#### Voltage Range A

Maximum utilization & service voltage	126
Minimum service voltage	114
Minimum utilization voltage	110

#### Voltage Range B

Maximum utilization & service voltage	127
Minimum service voltage	110
Minimum utilization voltage	106

Service voltage is the voltage where it comes into your house.  
Utilization voltage is the voltage at the load.

Today, most equipment is rated 120 volts, and is expected to operate at plus or minus 5% of voltage. Fractional hp motors are rated at 115 volts plus or minus 10%.

#### References:

1. "Electrical Engineers Pocket-Book," Horatio A. Foster, D. Van Nostrand company, 1903
2. "Utilization Voltages," Howard P. Seelye, AIEE Transactions, March 1942, Vol.61, pages 147-151.
3. ANSI C84.1-1982 "American National Standard for Electric Power Systems and Equipment - Voltage Ratings (60Hz)"

Respectfully Submitted (?)  
Richard Brunner, AA1P, rbrunner@gis.net

PS: Unbelievers may send their address, and I will send the  
documentation - gratis.

-----  
Date: Sat, 3 Apr 1999 16:55:50 -0500 (EST)  
From: Sandra L Knepper <slkst29+@pitt.edu>  
To: Old Tube Radios <boatanchors@theporch.com>  
cc: collins@listserv.tempe.com  
Subject: Dayton Hamvention 1999  
Message-ID: <Pine.GS0.3.96L.990403164305.13497B-1000000@unixs3.cis.pitt.edu>  
MIME-Version: 1.0  
Content-Type: TEXT/PLAIN; charset=US-ASCII

Today, I received from the Dayton Hamvention committee notification of my  
flea market spots 2317 and 2318. I wanted to make this announcement in  
the event some of you are wondering when the Dayton Hamvention committee  
would be sending out this packet.

We had received earlier our authorization for the Collins Forum which  
I moderate. The time is Friday, May 14, from 8 to 8:45 AM in Room 3.  
This year's topic focuses on Collins restoration and reproduction. I  
am delighted to have as the main presenter William Noonan, W6WJN, who  
will be discussing his reproduction of the 55G-1. If you recall, Bill was  
with us last year at the Collins Forum discussing his T-Tubes  
replacements. The Collins Forum is always a well-attended event. For the  
past two years, we have had the support of nearly 100 in attendance.  
Door prizes will be given out as usual.

Thank you.

Dave, W3ST

-----  
From: W4FMS@aol.com  
Message-ID: <4d7aec5e.2437e989@aol.com>  
Date: Sat, 3 Apr 1999 17:00:41 EST  
Subject: Eimac Date Codes  
To: Old Tube Radios <boatanchors@theporch.com>  
MIME-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
Content-Transfer-Encoding: 7bit

Hello BAer's:

Can someone tell me where the date code is on an Eimac 3-500Z? Once found, how do you read it.

Thanks.

Frank, W4FMS  
w4fms@aol.com

-----  
Message-Id: <v03007802b32c39144abd@[209.179.158.120]>  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
Date: Sat, 3 Apr 1999 13:37:27 -0800  
To: Old Tube Radios <boatanchors@theporch.com>  
From: Scott Robinson <spr@earthlink.net>  
Subject: Line voltage today

Folks,

I design professional audio equipment for a living, and our internal spec in nominal voltage (in this case 120VAC) +10% -15%, which works out to 102-132 VAC. Everything I build is supposed to work over that range.

That said, any place I have measured in the USA is generally 120-125 VAC. The exception is Japan, which is 100VAC and either 50 or 60 cycles to begin with. I understand that many areas there see more like the minimum of 85VAC most of the time. Many US based switching power supply vendors are suprised when I tell them their unit runs too hot at continuous 85VAC input; they think of this as a short-term dip or brownout condition only.

Rumor has it that Australia, nominally 240VAC< tends to run high (new agreed maximum for Europe at least is nominal +10% = 254VAC. If any Aussie list members would care to comment, I'd be happy to hear what they have to say.

Regards,

Scott Robinson  
spr@earthlink.net

Junque is GOOD for you!

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MIME-Version: 1.0  
Content-Type: text/plain; charset="US-ASCII"  
Content-Transfer-Encoding: 7bit

Date: Sat, 3 Apr 1999 18:31:03 -0500 (EST)  
Subject: BNC TO DUAL BANANA ADAPTOR?  
To: Old Tube Radios <boatanchors@theporch.com>  
From: JOHN\_SEHRING.parti@ecunet.org (JOHN SEHRING)  
Message-ID: <9904031831.aa03262@pcusa01.ecunet.org>

Is there such thing as a female BNC to dual banana (standard spacing) adaptor?

Needed to easily use "modern" (hey, that's a relative term) o'scope probes on my truly BA DuMont 304-A o'scopes.

-John Sehring (Sat, Apr 3, 1999 Custer SD USA) UCC WB0EQ

-----  
From: W6cds@aol.com  
Message-ID: <9abe07ef.24380516@aol.com>  
Date: Sat, 3 Apr 1999 18:58:14 EST  
Subject: Antique Electronics Supply  
To: Old Tube Radios <boatanchors@theporch.com>  
MIME-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
Content-Transfer-Encoding: 7bit

I need the address for Antique Electronics Supply in Arizona. Can someone help me? Do they have a web site or email address? Thanks, Charles - W6CDS

-----  
Message-ID: <3706CEF7.1C27@digizen.net>  
Date: Sat, 03 Apr 1999 18:31:19 -0800  
From: Charles Kadesch <chas@digizen.net>  
MIME-Version: 1.0  
To: Old Tube Radios <boatanchors@theporch.com>  
CC: boatanchors@theporch.com  
Subject: Re: BNC TO DUAL BANANA ADAPTOR?  
Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit

JOHN SEHRING wrote:

>

> Is there such thing as a female BNC to dual banana (standard spacing)  
> adaptor?

John: The Pomona Electronics 1269 is one such device. I don't know who carries them these days.

-73 de Chas W3KC-

-----  
MIME-Version: 1.0  
Content-Type: text/plain; charset="US-ASCII"  
Content-Transfer-Encoding: 7bit  
Date: Sat, 3 Apr 1999 19:29:12 -0500 (EST)  
Subject: LINE VOLTAGE FOR BA'  
To: Old Tube Radios <boatanchors@theporch.com>  
From: JOHN\_SEHRING.parti@ecunet.org (JOHN SEHRING)  
Message-ID: <9904031929.aa28858@pcusa01.ecunet.org>

To: boatanchors@theporch.com

Well, here's a survey from stuff I have on this:

National NC-125 rx 105-125 VAC  
Jackson 640 rf gen 110-120  
RCA WA-44C af gen 105-125  
Heath DX-40 tx 117  
B&W grid dip mtr 115  
Johnson Viking Valiant 117 (but says will operate w/in specs from 105-125)  
H-P 200CD af gen 115  
Heath AC-10 af gen 105-125  
" AA-1 af dist analyzer 105-125  
Waterman Pocketscope 105-125  
RCA WV-98C vtvm 110-130  
Drake 2B rx 120  
Heath SG-8 rf gen 105-125  
Heath HD-1 harm dist anal 105-125  
Drake R-4, -4A, -4B 120  
Drake AC-4 (ps for T-4\* tx's) 120  
Hallicrafters S-76, SX-96, -100, -101, -101A, -115, -122 105-125  
Halli R-274 has pwr xfmr taps for: 95/105/117/130/190/210/234/260  
draw you own conclusions!  
DuMont 304A o'scope 115 plus/minus 10%  
Collins 75S-\* 115

Not very scientific at all because it's just not representative of all equipment but from what I've got it looks like slight trend upward with newer BA's that specify a fixed line voltage rather than a range.

-John Sehring (Sat, Apr 3, 1999 Custer SD USA) UCC WB0EQ

-----  
Message-ID: <3706B3DC.D05347B9@connix.com>  
Date: Sat, 03 Apr 1999 19:35:40 -0500  
From: "P. J. \*Josh\* Rovero" <provero@connix.com>  
MIME-Version: 1.0  
To: Old Tube Radios <boatanchors@theporch.com>

CC: Old Tube Radios <boatanchors@theporch.com>  
Subject: Re: BNC TO DUAL BANANA ADAPTOR?  
Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit

Charles Kadesch wrote:

>  
> JOHN SEHRING wrote:  
> >  
> > Is there such thing as a female BNC to dual banana (standard spacing)  
> > adaptor?  
>  
> John: The Pomona Electronics 1269 is one such device. I don't know who  
> carries them these days.  
> -73 de Chas W3KC-

Pasternak, (949)261-1920 carries these as PE9008, \$9.95 in small qty.  
9009 is the bnc male to dual banana, costs \$12.95.

They are probably cheaper anywhere else, \*if\* you can find them....

--

P. J. "Josh" Rovero	email: <a href="mailto:provero@connix.com">provero@connix.com</a>
Oceanographer	work: <a href="mailto:rovero@sonalysts.com">rovero@sonalysts.com</a>
Meteorologist	radio: KK1D
Curmudgeon at Large	web: <a href="http://www.connix.com/~provero/">http://www.connix.com/~provero/</a>

-----  
From: W6cds@aol.com  
Message-ID: <e022291a.24381c7d@aol.com>  
Date: Sat, 3 Apr 1999 20:38:05 EST  
Subject: Antique Elect Supply  
To: Old Tube Radios <boatanchors@theporch.com>  
MIME-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
Content-Transfer-Encoding: 7bit

Thank you to all that responded for my request. Charles W6CDS Ex W6PDH

-----  
Message-ID: <001301be7e3d\$dbd31060\$2b2029d8@blah>  
From: "Richard" <rbrunner@gis.net>  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: Re: Vibrator Resuscitation  
Date: Sat, 3 Apr 1999 20:52:08 -0500  
MIME-Version: 1.0  
Content-Type: text/plain;  
charset="iso-8859-1"



Content-Transfer-Encoding: 7bit

Robert, Al, et all:

Vibrators can indeed be revived by exercising them from the ac 120 volt line through a 40 Watt incandescent lamp. I found it in Hints & Kinks, Vol. 6 (1959) page 100. For four pin vibrators, connect pins 2, 3, and 4 to the lamp. Pin 1 and the other side of the lamp go to the 120 volt line. 7 pin synchronous vibrators are a bit more complicated, and the lv and hv contacts should probably be cleared separately. (my theory) For lv contacts, connect pins 1, 3, 4, and 6 to the lamp. For the hv contacts, connect pins 2, 3, 4, and 5 to the lamp. Pin 7 goes to the line in both cases. This takes care of both series and shunt driven vibrators. I have no more vibrators to play with, but plan to use this method the next time.

Richard Brunner, AA1P, rbrunner@gis.net

-----  
Message-ID: <3706CB9D.A2E73A18@bw.webex.net>  
Date: Sat, 03 Apr 1999 21:17:01 -0500  
From: Al Klase <skywaves@bw.webex.net>  
MIME-Version: 1.0  
To: Old Tube Radios <boatanchors@theporch.com>  
CC: Old Tube Radios <boatanchors@theporch.com>  
Subject: Re: BNC TO DUAL BANANA ADAPTOR?  
Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit

Pasternak really annoys me. They send that stupid catalog to every electronics person on earth, living or dead, and charge double for everything. You'd think they were J.C. Whitney for Pete sake! (Actually J.C.'s prices were OK>)

Sorry for the outburst. Yes, they fill a valid market niche.

You can get an ITT Pomona 1296 from Allied Electronics (Allied PN 885-0250) for \$5.80. Techni-Tool has them as well.

73,  
Al

"P. J. \*Josh\* Rovero" wrote:

>  
> Charles Kadesch wrote:  
> >  
> > JOHN SEHRING wrote:  
> > >

> > > Is there such thing as a female BNC to dual banana (standard spacing)  
> > > adaptor?  
> >  
> > John: The Pomona Electronics 1269 is one such device. I don't know who  
> > carries them these days.  
> > -73 de Chas W3KC-  
>  
> Pasternak, (949)261-1920 carries these as PE9008, \$9.95 in small qty.  
> 9009 is the bnc male to dual banana, costs \$12.95.  
>  
> They are probably cheaper anywhere else, \*if\* you can find them....  
>  
> --  
> P. J. "Josh" Rovero                      email: provero@connix.com  
> Oceanographer                            work: rovero@sonalysts.com  
> Meteorologist                            radio: KK1D  
> Curmudgeon at Large                    web:    http://www.connix.com/~provero/

--  
Al Klase - N3FRQ  
skywaves@bw.webex.net  
Flemington, NJ 08822  
Web Page: <http://www.webex.net/~skywaves/home.htm>

-----  
Date: Sat, 3 Apr 1999 20:43:54 -0600 (CST)  
From: Bob Roehrig <broehrig@admin.aurora.edu>  
To: Old Tube Radios <boatanchors@theporch.com>  
cc: Old Tube Radios <boatanchors@theporch.com>  
Subject: Re: BNC TO DUAL BANANA ADAPTOR?  
Message-ID: <Pine.ULT.3.96.990403204331.46630-100000@admin.aurora.edu>  
MIME-Version: 1.0  
Content-Type: TEXT/PLAIN; charset=US-ASCII

On Sat, 3 Apr 1999, JOHN SEHRING wrote:

> Is there such thing as a female BNC to dual banana (standard spacing)  
> adaptor?  
>

Yup - Pomona makes all kinds of adapters.

"Nostalgia is a thing of the past"  
E-mail broehrig@admin.aurora.edu                      73 de Bob, K9EUI  
CIS: Data / Telecom    Aurora University, Aurora, IL  
630-844-4898    Fax 630-844-5530

-----

Message-Id: <199904040256.VAA16884@flash.naxs.net>  
From: "Barry L. Ornitz" <ornitz@tricon.net>  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: Re: Line voltage  
Date: Sat, 3 Apr 1999 21:54:36 -0500

Richard Humphrey took me to task about my note on line voltage. He wrote:

>Line voltage creep is just an urban legend.

It actually is not. Richard is only considering the source of the creep to be the nominal power line voltage sent out by power stations.

>Alternating current has always been distributed in North America  
>at 120 volts or better. I've traced this right back to before the  
>turn of the century. Sacramento California went electric in 1896  
>at 125 VAC, 60 cycles.

Yes, and the design standard for equipment is, as he says, a nominal 117 volts. I have seen gear with stated power requirements of 105 to 115 volts, but 117 really is the standard. But what you actually have at your location is determined by more factors than what is sent out by the power supplier.

Jim Rolk has already explained how the voltage drops along lines.

>Back in time, there was more variation down the feeder as  
>automatic voltage control was not used. The crews started at  
>the station with about 125 V and ran the wire as far as they  
>could, before the complaints about dim lights came in.

This is the real explanation. Many years ago, automatic feeder voltage control was unheard of in many systems. Likewise houses were wired with smaller gauge wires (#14 and sometimes \*#16\* where #10 and #12 are used today) - maybe you had building inspectors where you lived and properly sized wires were used, but 30 to 40 years ago building inspectors were virtually nonexistent in the South. Pole transformers built before hypersil wound cores became prevalent were slightly less efficient too. Finally the use of electricity for total home cooling and heating was very rare.

In this area, eastern Tennessee, we see large voltage increases in the spring and fall because most heat pumps and air conditioners are not running. The voltage is quite different,,running about 115 volts in the winter and summer. American Electric Power's policy is to keep the voltage within specifications only under the heavy load conditions. So every

spring and fall, incandescent lamps are in high demand at local stores.

All of this adds up to an increase in voltage often seen by consumers even though the power company has never changed its standards. The creep is there - but it is not caused by the power companies.

>BA radios have always been running at today's voltage. 120 to  
>125 is well within the RMA tolerance range. Should you reduce  
>it slightly to ease the strains? Use an inrush limiter?  
>Couldn't hurt. Just stop obsessing about it, and when someone  
>else says "one-ten" please set them straight.

Properly restored Boatanchor gear *\*should\** run fine in this voltage range. But I have personally seen old, but still operating, radios removed from a location with low line voltage quickly blow out their power supply electrolytics when plugged into a higher line voltage. Of course the fault here is not the line voltage itself. Rather it is the fact that in electrolytic capacitors used below their original voltage rating, the anodic film will slowly hydrolyze and reduce the voltage rating of the capacitor to that needed for regular operation. The correct procedure would be to replace or reform these capacitors - before they explode. While hams restoring gear are usually familiar with this situation, the general public is not. For some curious reason, the old phenolic cased AC/DC All-American Five radios are gaining in popularity again. The local flea markets often have these on sale by rural residents who continued to use the radios but heard they could make a quick sale. They are sold as working radios, and after the new urban user plugs them in, they work for only a few minutes until the electrolytic has so much leakage current the radio fails. Plugging in the radio on a long extension cord at the flea market is also not representative of the voltage the radio sees when placed in a modern house in a modern neighborhood.

In general, I prefer my line voltage to be high rather than low. Efficiency of motors and most electronics is better that way. But there is one BIG negative factor - the service life of incandescent lamps. Incandescent lamps have a service life that are an extremely strong function of temperature. I have heard estimates that a five percent reduction in voltage can give a doubling of service life but I never could find a good reference for this. I did find, however, several equations for service life of lamps on the Internet which stated that service life is inversely proportional to the voltage to the 12th power. I also found some statistical data that I fit to an exponential function. The equation given by EAO Switch "A Brief Guide to Lamps"  
<http://www.eaoswitch.com/about/lamps.htm> was:

$$\text{re-rated\_life} = \text{rated\_life} * (\text{rated\_voltage}/\text{applied\_voltage})^{**12}$$

Interestingly my fitted equation followed this rather well:

$$\text{re-rated\_life} = \text{rated\_life} * \exp(12.6 * (1 - \text{applied\_voltage}/\text{rated\_voltage}))$$

If you put some numbers into this, it will make more sense:

Line Voltage	Ratio to 117 V	Normalized Lifetimes	
		Power	Exponential
105	0.897	3.664	3.641
110	0.940	2.097	2.125
115	0.983	1.230	1.240
117	1.000	1.000	1.000
120	1.026	0.738	0.724
125	1.068	0.452	0.423

If you stick in the 5 percent high or low, you actually do get a change in normalized lifetimes of almost two.

So while, Richard is correct about the ideal line voltage not changing, we generally see higher voltages today than we did years ago. In my gear, I use higher voltage components and do not worry about it. But if you do, the bucking filament transformer is much less expensive than a variable autotransformer.

Another handy piece of information I picked up might be of value. While not generally applicable to vacuum tube filaments because they operate at much lower temperatures, incandescent lamps have a shorter life when run on DC. The effect increases the higher the operating voltage.

73, Barry L. Ornitz      WA4VZQ      ornitz@tricon.net

-----  
Message-Id: <3.0.1.32.19990403224418.006b623c@pop.mindspring.com>  
Date: Sat, 03 Apr 1999 22:44:18 -0500  
To: Old Tube Radios <boatanchors@theporch.com>  
From: Garey Barrell <k4oah@mindspring.com>  
Subject: Re: BNC TO DUAL BANANA ADAPTOR?  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"

At 06:31 PM 4/3/99 -0500, you wrote:

>Is there such thing as a female BNC to dual banana (standard spacing)  
>adaptor?

>

>Needed to easily use "modern" (hey, that's a relative term) o'scope probes  
>on my truly BA DuMont 304-A o'scopes.

>

> -John Sehring (Sat, Apr 3, 1999 Custer SD USA) UCC WB0EQ

>

John -

Yep. Made by (ITT) Pomona, among others. They ain't cheap however...  
What you need runs about \$6 from Mouser. OF course you can get them in Red  
or Black!!

73, Garey - K40AH

-----  
Date: Sat, 3 Apr 1999 22:47:44 -0500  
From: "ROBERT W. DOWNS" <RWDowns\_WA5CAB@compuserve.com>  
Subject: RE: BC-1147-A & Asterisk  
To: Old Tube Radios <boatanchors@theporch.com>  
Message-ID: <199904032248\_MC2-7082-AFA9@compuserve.com>  
MIME-Version: 1.0  
Content-Transfer-Encoding: quoted-printable  
Content-Type: text/plain; charset=ISO-8859-1  
Content-Disposition: inline

Joe, David & Group,

The asterisk in Fred's listing (BC-1147\*) means any model, i.e., BC-1147-  
A,  
BC-1147-B, etc., that was built. More properly, it should be listed as  
BC-1147-(\*), according to standard Signal Corps usage.

My sources don't list another receiver in the set. The BC-1159 is the  
bearing indicator. The rest of the packing list consists of antennas,  
cables, chests, and a rack.

73,  
Robert Downs  
WA5CAB  
Houston

-----  
To: Old Tube Radios <boatanchors@theporch.com>  
Date: Sat, 3 Apr 1999 21:44:42 -0600  
Subject: Cataloging Carl & Jerry (list)  
Message-ID: <19990403.214542.-369609.1.MNHopkins@juno.com>  
MIME-Version: 1.0  
Content-Type: text/plain

Content-Transfer-Encoding: 7bit  
From: mnhopkins@juno.com

As guilty as any, and more so than many, are Carl Anderson and Jerry Bishop. The fictional "Carl and Jerry" from Popular Electronics led many of us astray in the late 1950s and early 1960 with their adventures in things electronic.

Creations of John T. Frye, W9EGV, these Hardy Boys of radio were to the WA- (and WN-) set what Tom Swift was to the Old Timers, but they are slipping away from us now.

As far as I know, there is no CD of PE, so I propose to start an annotated bibliography of Carl and Jerry. The ten closest to hand, not including the episode when they meet Jody Foster in a heating pipe under Parvoo College, are here listed.

If you will send me sighting reports of these guys, who are not in every issue, I'll add them to the list and, someday, offer a fuller file to those who, like me, have trouble bending over long enough to check the whole stack under the ham fest table.

Partial list of Carl and Jerry Adventures  
>From Popular Electronics Magazine

"The Ghost Talks," Nov, 1959, p 38 - A potboiler about a pledge provoking ghost for next door Norma ends with a Hitchcock twist. Was it really Hans Bruner?

"First Case," Jun, 1961, p 99 - C&J Electronics Laboratory's first client is a pubescent Lauren Bacall named Loree, aka Laura Hall from across the street who leads radio's Richard Diamonds to a TVI tending crystal set.

"The River Sniffer," Jul, 1962, p 85 - Politically Correct as always, the boys help a picturesque farmer find the font of foul pollution.

"The Electronic Erasure," Aug, 1962, p 94 -- A federal agent with a pain in the side, instead of causing one in the regular place, enlists the boys in espionage.

"Slow Motion for Quick Action," Apr, 1963, p 89 - A jackleg chart recorder refutes a big time engineer and proves someone's bridge is falling down.

"Extracurricular Education," Jul, 1963, p 63 - Playboys Phil Briggs and Dave Hyden ruin their new rag top but the boys save the day with a pick up spark transmitter in this often quoted classic.

"All's Fair -- ," Sep, 1963, p 82 - The boys facilitate a felony but get praised for fixing it when their meddling in pal Butch's love life leads to Police Chief Morton's bagging a pair of toughs for grand theft auto.

"High Toned Hawkshaw," Oct, 1963, p 88. Honeysuckle talking Jodi Foster is moodier than ever and the boys uncover a sexist plot that explains it all.

"The Lightening Bug," Nov, 1963 p 73 - A meter long electric insect, built to buffalo sorority pledges, makes some frat rats scurry.

"The Girl Detector," Jan, 1964, p 33 - Feminazis will fume over the passive portrayals of Jodi and Thelma in this page filler about a gender differentiating icon.

"A Jarring Incident," Sep, 1964, p 84 - Pal Bill's Cessna lets the boys foil an insurance scam for Police Chief Morton.

So there are ten Carl and Jerrys. You can do your archival part by forwarding others to the e-mail below.

de ab5L, Michael Hopkins, Box 226841, Dallas, TX 75222,  
MNHopkins@JUNO.com  
Student of Tecraft, ICM, and Six Meters' golden age, 1956-58.

-----  
Message-ID: <3706EE9F.F264364@esslink.com>  
Date: Sat, 03 Apr 1999 23:46:23 -0500  
From: Sandy Gerli <angerli@esslink.com>  
MIME-Version: 1.0  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: HT-32B WANTED  
Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit

Hi, everyone,

Looking for a decent HT-32B in working shape with manual. If you're bringing one to Dayton, how about I pick it up from you out there?

73,

--

Sandy Gerli, AC1Y  
500 Country Club Road  
Avon, CT 06001-2406  
(860) 675-5566



E-Mail: angerli@esslink.com

Life Member: ARRL, QCWA  
Collins Collectors Association  
Hallicrafters Collectors Association

Boatanchors are Ham Radio's living heritage!  
Restore something! Smell that hot solder!  
Sure beats booze. And, you can get up afterwards!!  
Keep your finals dipped...

-----  
Message-Id: <199904040634.AAA29336@sco.theporch.com>  
Subject: Ameco 2 Meter Converter Model CB-2  
Date: Sun, 4 Apr 99 06:34:35 +0000  
From: <davidh@getnet.com>  
To: Old Tube Radios <boatanchors@theporch.com>  
Mime-Version: 1.0  
Content-Type: text/plain; charset="US-ASCII"

A couple of questions on the above unit. Can anybody tell me what tubes are in this unit? Mine has a 6J6 and is missing the other tubes. Also what frequency is the crystal and what is the output frequency?

Tnx and 73,

Dave N7RK

\*\*\*\*\*

Dave N7RK - Webmaster CADXA  
Phoenix, Arizona            \*DXCC Honor Roll\*        \*WAZ#23 - 75 Meter SSB\*

ex-N7RK/ZB2, VK2ERK, ZM0AJN, WB6NRK, WN6IWX

Boatanchor Collector Extraordinaire preferring Hallicrafters, National and what ever else looks interesting!

E-Mail: davidh@getnet.com  
My Home Page: <http://www.getnet.com/~davidh>

Visit the Central Arizona DX Association Home page - <http://cadxa.org>

-----

End of BOATANCHORS Digest 2489

\*\*\*\*\*

>From ???@??? Sun Apr 04 14:19:49 1999  
Message-Id: <199904041810.NAA19656@sco.theporch.com>  
Date: Sun, 4 Apr 1999 13:10:12 CDT  
From: Old Tube Radios <boatanchors@theporch.com>  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: BOATANCHORS digest 2490

BOATANCHORS Digest 2490

Topics covered in this issue include:

- 1) tube shields  
by Morris Odell <morriso@vifp.monash.edu.au>
- 2) Re: Line voltage  
by Morris Odell <morriso@vifp.monash.edu.au>
- 3) Fun with the Eddystone  
by Morris Odell <morriso@vifp.monash.edu.au>
- 4) RE: TESTING PWR TUBES  
by Maurice Weinschenker <morry@ix.netcom.com>
- 5) Ameco 2 Meter Converter---Thanks!!!!  
by <davidh@getnet.com>
- 6) RE: Line Voltage  
by n6nae@ix.netcom.com (Richard Humphrey)
- 7) RADIO mag article wanted  
by Bob Roehrig <broehrig@admin.aurora.edu>
- 8) to be, or not to be  
by k5jv@vonl.com (Lon W. Cottingham)
- 9) I've been away + Looking for BA's at Charlotte & near Boston  
by "John Dilks, K2TQN" <oldradio@worldnet.att.net>
- 10) The French  
by "Spencer Petri" <spetri@e-tex.com>
- 11) RE: Line Voltage  
by Sandra L Knepper <slkst29+@pitt.edu>
- 12) Re: TESTING PWR TUBES  
by John M Iverson <jackiv@juno.com>
- 13) Re: TESTING PWR TUBES  
by Paul Bernhardt <bern@ppdu.nrl.navy.mil>
- 14) Re: Fun with the Eddystone  
by Jerry Proc <jproc@idirect.com>
- 15) DX-100 Fixed  
by W4UOC@aol.com
- 16) to be or not to be  
by k5jv@vonl.com (Lon W. Cottingham)
- 17) Re: Line Voltage

by "Arden Allen" <gumbear@pacbell.net>

-----  
Message-ID: <37074C88.C263C0FA@vifp.monash.edu.au>

Date: Sun, 04 Apr 1999 21:27:04 +1000

From: Morris Odell <morriso@vifp.monash.edu.au>

MIME-Version: 1.0

To: Old Tube Radios <boatanchors@theporch.com>

Subject: tube shields

Content-Type: text/plain; charset=us-ascii

Content-Transfer-Encoding: 7bit

Hi all,

Sandy W5TVW wrote:

>

> On Thu, 1 Apr 1999, James R. Binkley wrote:

>

> > Mystery #1 I found two shields which fit a normal 7 pin miniature  
> > tube, made from the usual shiny sheet metal. What makes them a mystery  
> > is that they have a lead cylinder pushed down around the outside of the  
> > shield, its about 1 1/4 long and 1/8 thick. Judging from the markings on

>

> They used to use these on the 6AF4 oscillator in the UHF tuner on the old TV  
> sets. I think it was to reduce microphonics and keep the tuner from jumping  
> frequency when someone walked across the floor. Sorta like the old 33 RPM  
> record players used to do if you had a raised house and the floor shook  
> slightly when you walked on it, and the record player would jump to another  
> groove

> in the record! I didn't see them any place else.

I have a 526A video amp plugin for the HP 524 battleship anchor  
frequency counter that uses them over the preamp tubes. There are 2  
6AK5s mounted on a little rubber buffered subchassis with these shields.  
The 524 has a HUGE fan to cool its 100 odd tubes and the vibration was  
probably the reason for it.

73 de Morris VK3DOC

-----  
Message-ID: <3707515D.3F230A11@vifp.monash.edu.au>

Date: Sun, 04 Apr 1999 21:47:41 +1000

From: Morris Odell <morriso@vifp.monash.edu.au>

MIME-Version: 1.0

To: Old Tube Radios <boatanchors@theporch.com>

Subject: Re: Line voltage

Content-Type: text/plain; charset=us-ascii

Content-Transfer-Encoding: 7bit

John R Bookout K7JB wrote:

>

> LINE VOLTAGE OPERATION FROM 90 to 136 V AC:

>

> we always checked power supply regulation from 90 to 136 V AC. If the  
> power supply would go out of regulation inside this range, we had to  
> troubleshoot the power supply and fix the problem.

>

> I always wondered where one would encounter such extremes in line  
> voltages.

Here in my part Melbourne with privatised electricity reticulation,  
newly installed Aluminium conductors to replace copper and a high  
incidence of airconditioning the voltage falls quite a lot on hot  
nights. I have measured the nominally 240 volt mains as low as 205 volts  
(corresponding to 120 volt mains down to 102.5 volts). This is enough to  
cause some pieces of gear to malfunction, but not the trusty Tek 535A.

The 575 curve tracer has trouble reaching its maximum collector voltage  
though, as this is derived from the mains through a transformer & variac  
with no regulator.

73

Morris VK3DOC

-----  
Message-ID: <370759C7.C92FAE19@vifp.monash.edu.au>

Date: Sun, 04 Apr 1999 22:23:35 +1000

From: Morris Odell <morriso@vifp.monash.edu.au>

MIME-Version: 1.0

To: Old Tube Radios <boatanchors@theporch.com>

Subject: Fun with the Eddystone

Content-Type: text/plain; charset=us-ascii

Content-Transfer-Encoding: 7bit

Hi all,

>From time to time a thread appears here concerning the idiosyncrasies of  
British engineering, particularly regarding their cars. Well here it  
comes again...

This week I finally got out the last of the Eddystone triplets for  
restoration - the 680X. According to Osterman this was their top model  
for a long time, the series being first produced in 1949 which  
coincidentally is the year I was first produced as well. The 680X is an  
HRO type HF receiver by which I mean it is the typical single conversion

2RF - mixer- 2IF - single crystal filter design that was so popular in those days. It covers 480 KHz to 30 MHz in 5 bands using using 15 tubes of the 6BA6/6BE6/6AL5/6AM6 type with a few wierd exception which I'll get to. Osterman says it has a product detector but there's no sign of one in my example.

Mechanically it has the lovely Eddystone dial and a very solid cast alloy RF unit containing the RF stages, mixer and separate oscillator. There's a 4 gang tuning capacitor with ceramic bead insulated wires. The IF strip achieves variable selectivity by means of a mechanical linkage that alters the primary/secondary spacing in the 3 IF transformers.

4 of the 15 tubes are the Audio section. Now with 4 tubes devoted to audio you'd expect something pretty nice, but what you get is 4 relatively expensive tubes labouring away to produce....3 watts! And 3 pretty crappy watts at that - the output transformer is very tiny. The first 2 stages are a pair of rare 6BR7 pentodes arranged as a paraphase amplifier, and they feed push-pull 6AM5s. These are puny little pentodes of the 6AK6 class. If I were rehashing it all I'd probably go for a 12AU7 into a 6AQ5 and save a lot of complexity. I'm not going to do that as it works OK but I'm dreading having to replace a 6BR7 - they are quite dear. I think one of them is on the way out unfortunately.

When I got it in unworking condition the dial was jammed and I had terrible thoughts of dismantling it. It's much simpler than a R-390a dial but would take just as much work including a diabolical cord re-stringing. Fortunately I managed to get it freed up without too much work. It was probably designed by someone who went on to have a distinguished career at Rover :-). The DPO ( Dreaded Previous Owner) had replaced one of the filter caps and the B+ choke which had apparently burned out. He had also replaced the 5Z4G rectifier with a 5U4GB which looks nice but draws 150% of the filament current of the 5Z4. Apart from that it was clean and in good condition.

There were several toasted resistors that required replacement as well as those stud ended metal canned paper caps about which I have written here scathingly in the past. They are impossible to replace with originals so I've had to fit in Orange drop type caps as neatly as I can.

Once I got it going it worked quite well although the S meter is the victim of what appears to have been a small explosion inside. The s-meter (labelled R-meter for some reason) is in series with a spare half-6AL5 but this didn't save it. I'm looking for a 1.5 inch diameter 100 uA meter now to replace it. It's no good at all on SSB because of a combination of inadequate AGC and low BFO injection.

It looks terrific and will do as a general purpose receiver although I

have much better ones for serious listening.

73 de Morris VK3DOC

-----  
Message-ID: <3707627F.74C59E4F@ix.netcom.com>  
Date: Sun, 04 Apr 1999 09:00:47 -0400  
From: Maurice Weinschenker <morry@ix.netcom.com>  
MIME-Version: 1.0  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: RE: TESTING PWR TUBES  
Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit

STILL TRYING TO CLEAN ATTIC ETC. HVE A FAIR NUMBER OF TUBES SUCH AS  
813,4-125,4-1000,304TL ETC. U GET THE IDEA. IS THEIR AN EASY WAY TO DO  
SOME KIND OF STATIC TEST ON THESE TUBES?????????????????  
MNY TNX IN ADVANCE  
BEST 73 MORRY K3DPJ

-----  
Message-Id: <199904041400.JAA14639@sco.theporch.com>  
Subject: Ameco 2 Meter Converter---Thanks!!!!  
Date: Sun, 4 Apr 99 14:00:17 +0000  
From: <davidh@getnet.com>  
To: Old Tube Radios <boatanchors@theporch.com>  
Mime-Version: 1.0  
Content-Type: text/plain; charset="US-ASCII"

Thanks to everyone for their responses on the Ameco converter. Norm Hall,  
W6JD pointed me to this site <http://6mt.com/> where I was able to  
download a copy of the manual. Thanks to everyone else for their generous  
offers of a manual.

73,

Dave N7RK

\*\*\*\*\*

Dave N7RK - Webmaster CADXA  
Phoenix, Arizona            \*DXCC Honor Roll\*       \*WAZ#23 - 75 Meter SSB\*

ex-N7RK/ZB2, VK2ERK, ZM0AJN, WB6NRK, WN6IWX

Boatanchor Collector Extraordinaire preferring Hallicrafters, National

and what ever else looks interesting!

E-Mail: davidh@getnet.com

My Home Page: <http://www.getnet.com/~davidh>

Visit the Central Arizona DX Association Home page - <http://cadxa.org>

-----  
Date: Sun, 4 Apr 1999 09:50:01 -0500 (CDT)  
Message-Id: <199904041450.JAA11879@dfw-ix14.ix.netcom.com>  
From: n6nae@ix.netcom.com (Richard Humphrey)  
Subject: RE: Line Voltage  
To: Old Tube Radios <boatanchors@theporch.com>

Wow, did I do that? Good discussion, it will take me a while to read through it all. I get the list through the digest mode.

Someone around here pointed out that you can do more to keep your radio running cool by replacing all those leaky antique caps and way-off drifty carbon comp resistors. Both contribute to excessive B+ loading. Keep em lit.

Richard

-----  
Date: Sun, 4 Apr 1999 09:48:23 -0500 (CDT)  
From: Bob Roehrig <broehrig@admin.aurora.edu>  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: RADIO mag article wanted  
Message-ID: <Pine.ULT.3.96.990404094437.9758B-100000@admin.aurora.edu>  
MIME-Version: 1.0  
Content-Type: TEXT/PLAIN; charset=US-ASCII

I am on the 75th anniversary committee for our local radio club (the Fox River Radio League) and am looking for any material dealing with the history of the club. I saw an article in the August 1935 issue of "RADIO" that said "ARRL director Roberts of the central division will have something to say at the 8th annual convention, Aug 3 in the Exposition Park Aurora, Illinois." Apparently his report was supposed to be in the Sept 1935 issue, which I don't have. Canb anyone furnish me with a copy of that article?

"Nostalgia is a thing of the past"

E-mail [broehrig@admin.aurora.edu](mailto:broehrig@admin.aurora.edu) 73 de Bob, K9EUI  
CIS: Data / Telecom Aurora University, Aurora, IL  
630-844-4898 Fax 630-844-5530

-----  
Message-ID: <002c01be7eb4\$4121cda0\$a20adfd0@kingwoodcable.com>  
From: k5jv@von1.com (Lon W. Cottingham)  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: to be, or not to be  
Date: Sun, 4 Apr 1999 11:00:25 -0500  
MIME-Version: 1.0  
Content-Type: text/plain;  
        charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

Greetings to all,

There has been a great deal of discussion today about whether to change the to a mechanical filter in the 51S1, or not. The general opinion seems to not change. I think a close look at Collins filter specs is in order before a decision is made.

Do I change, or do I not change to a mechanical filter? That is the question. If you are going to use the receiver for Hi Fi or broadcast monitoring, the answer is probably "no". This may not be the best answer if you are located a great distance from the station you normally listen to. If, on the other hand, you use the receiver for communications purposes, then, the answer will most definitely be "yes".

A good AM receiver requires both enough bandwidth to pass what you want to hear, and skirt selectivity to achieve this desire without interference from strong adjacent stations. Take a look at the Collins mechanical filter specs. You will notice that there are at least two 6 Khz filters listed for all types. The F455F-6 is the more commonly found filter but it is not the filter of choice. This filter has a bandwidth of 6 Khz at the 6 dB point and, a very narrow, 12.6 Khz at the 60 dB point. The HI's and LO's are really going to be chopped off when forced through this filter. Take a look at the F455FC-6 filter specs. It has the same 6 Khz bandwidth at the 6 dB point but has a, much wider, 25.9 Khz bandwidth at the 60 dB point. For communications purposes, do we really care about any HI's or LO's that are effected by this filter. This is the filter of choice and is the filter that Collins recommends in their literature of AM use in the "S" Line. Quite often I find the F455F-6 in use, probably because it cost less than the "FC" filter when new.

The ARR-41 receiver originally had a 6 Khz filter for AM. In later versions, this filter was replaced with a 9.3 Khz unit. This really did make AM sound better from the ARR-41. If you are lucky enough to find some of the ARR-41 IF units that still have the 9.3 Khz filter, it makes a wonderful improvement to the standard 6 Khz filter in the 51J4 receiver. In my KW-1 / 51J4 station, I use a 9.3 Khz, 6 Khz, and 3.1 Khz filter. This is the best compromise filter arrangements that I have found.



In case you decide to try to adapt one of these 9.3 Khz, please use extreme caution when removing the solder tabs from the filter. DO NOT use dikes or side cutters to simply cut off the tabs. If you do, you will undoubtedly destroys, permanently, the very fragile transducers inside the filter case. Grasp the filter pins with a pair of needle nose pliers or hemostats to sink any shock and grind them off with a Drimel Tool. This filter will plug directly into the socked of a 51J4 receiver. What a wonderful difference it makes.

The 51J4 and 51S1 were designed for service in an FAA / AIRINC station where only assigned, separate channels were used. Interference was at a minimum. They performed quite satisfactorily for many hears in this service. However, operation on today's crowded Ham bands is quite different from operation in an FAA /AIRINC station. A 51S1 or 51J4 with the proper mechanical filter installed is a tremendous plus for Ham band operation. I think that Collins felt the same way about it, otherwise why would they have generated the service bulletins to install the AM mechanical filter in the 51S1.

The F455 filter is used here as a reference only for simplicity sake. What I have said applies to other types of Collins Mechanical Filters as well. Good luck and have fun.

73 de Lon Cottingham, K5JV

-----  
Message-ID: <37078D35.57D3@worldnet.att.net>  
Date: Sun, 04 Apr 1999 12:03:01 -0400  
From: "John Dilks, K2TQN" <oldradio@worldnet.att.net>  
MIME-Version: 1.0  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: I've been away + Looking for BA's at Charlotte & near Boston  
Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit

To all,

If I owe you email, I'm sorry, I've been away a lot lately. In the last 35 days = three 800 mile automotive round trips to the Boston area (I'm here now visiting my newest Granddaughter [Apr 1, 1999],) and one 1200 mile round trip with the Oldradio Museum to the AWA meet in Charleston, NC. Also on the way back from Charleston, a side-trip to Trenton, NJ for the DVRA hamfest with the museum. (I couldn't make the MAARC meeting in MD due to last-minute family committments (XYL!) I'm a little burned-out right now.

Radio goodies spotted and aquired on these trips were:

VFO made after WW-II -- I'll post a photo later: from Charlotte  
500 nice 1930-'40s QSL cards: Charlotte  
A nice set of RCA tube manuals: Trenton  
Early MESCO practice Telegraph-Sounder key set from about 1910: Boston  
1925-26 Speaker sold by Sears, made by Operadio, oval + All Brass  
case: Boston  
Old General Radio Wave Meter set w/box and 4 coils (1930's): Boston

I'll be back in the swing of things soon.

--

73' John Dilks, K2TQN

Please visit my OldRadio Museum  
<http://www.eht.com/oldradio/museum>

Webmaster for the Antique Wireless Association  
<http://www.ggw.org/awa> Click on "Page 2"

--and--

for the New Jersey Antique Radio Club  
<http://www.eht.com/oldradio>

-

-----  
Message-ID: <000101be7eb3\$ef054ba0\$2e2619ce@default>  
From: "Spencer Petri" <spetri@e-tex.com>  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: The French  
Date: Sun, 4 Apr 1999 10:58:06 -0500  
MIME-Version: 1.0  
Content-Type: text/plain;  
charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

Greetings,

Sometime back there was a thread here about the accomplishments of the French as related to radio and science. I've stumbled across one that I've never thought of before. Pierre Vernier. No further explanation needed.

es 73 de Pete WA5JCI

6 meter VUCC # 361  
2 meter VUCC # 346

-----  
Date: Sun, 4 Apr 1999 12:40:51 -0400 (EDT)

From: Sandra L Knepper <slkst29+@pitt.edu>  
To: Old Tube Radios <boatanchors@theporch.com>  
cc: boatanchors@theporch.com  
Subject: RE: Line Voltage  
Message-ID: <Pine.GS0.3.96L.990404122948.2094A-100000@unixs3.cis.pitt.edu>  
MIME-Version: 1.0  
Content-Type: TEXT/PLAIN; charset=US-ASCII

Richard, you are the only one that had the insight to recognize leaky bypass capacitors as the culprit in destroying many a transformer.

For example, the bypass capacitors that are used in the Collins 32V series transmitter, i.e. the ones that bypass the screens on the multiplier stages, especially, can "load up" the low voltage transformer. I would suspect that is why the low voltage transformer became defective after many years. A former engineer at Collins told me this trick. But, who is going to replace these mica caps when the transmitter is working well. When the leakage current is added up, the additional load to the transformer eventually "cooks" the transformer.

Dave, W3ST

On Sun, 4 Apr 1999, Richard Humphrey wrote:

> Wow, did I do that? Good discussion, it will take me a while to read  
> through it all. I get the list through the digest mode.  
>  
> Someone around here pointed out that you can do more to keep your radio  
> running cool by replacing all those leaky antique caps and way-off  
> drifty carbon comp resistors. Both contribute to excessive B+ loading.  
> Keep em lit.  
> Richard  
>

-----  
To: Old Tube Radios <boatanchors@theporch.com>  
Cc: boatanchors@theporch.com  
Date: Sun, 4 Apr 1999 11:49:44 -0500  
Subject: Re: TESTING PWR TUBES  
Message-ID: <19990404.114945.9182.1.jackiv@juno.com>  
From: John M Iverson <jackiv@juno.com>

Morry there is or was an article in the GE ham news with a good description of a couple of static tests as well as an oscillator to check rf efficiency. will look next time in dungeon. 73 jack  
Jack Iverson K0EWU jackiv@juno.com  
ARRL, IEEE LM, RCA, AMI, ARCI, QCWA

On Sun, 04 Apr 1999 09:00:47 -0400 Maurice Weinschenker

<morry@ix.netcom.com> writes:

>STILL TRYING TO CLEAN ATTIC ETC. HVE A FAIR NUMBER OF TUBES SUCH AS  
>813,4-125,4-1000,304TL ETC. U GET THE IDEA. IS THEIR AN EASY WAY TO DO  
>SOME KIND OF STATIC TEST ON THESE TUBES?????????????????  
>MNY TNX IN ADVANCE  
>BEST 73 MORRY K3DPJ  
>  
>

-----  
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or call Juno at (800) 654-JUNO [654-5866]

-----  
Date: Sun, 4 Apr 1999 13:08:58 -0400 (EDT)  
From: Paul Bernhardt <bern@ppdu.nrl.navy.mil>  
To: Old Tube Radios <boatanchors@theporch.com>  
Cc: Old Tube Radios <boatanchors@theporch.com>  
Subject: Re: TESTING PWR TUBES  
Message-Id: <Pine.A32.4.03.9904041259190.33204-100000@ppdu.nrl.navy.mil>  
Mime-Version: 1.0  
Content-Type: TEXT/PLAIN; charset=US-ASCII

Morry and Jack,

The GE Ham News that describes Transmitter Tube Testing is Vol. 6 No. 3 May-June 1951. Tests are given for 2E26, 4-125A, 4-250A, 35T, 100TH, 203A, 211, 592, 805, 806, 807, 810, 811A, 812A, 813, 814, 815, 829B, 832A, 837, 838, 8000, 8005. Tests are (1) Continuity and Short, (2) Static Characteristic, and (3) 14 Magacycle Power Oscillation Test. Length of article is 8 pages. A self addressed stamped envelope (9 inches by 12 inches) gets a xerox copy. Please send no money, just put the proper postage on the envelope along with a legibly written address and the words "ham news article" in the lower left corner.

Paul Bernhardt

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On Sun, 4 Apr 1999, John M Iverson wrote:

> Morry there is or was an article in the GE ham news with a good

> description of a couple of static tests as well as an oscillator to check  
> rf efficiency. will look next time in dungeon. 73 jack  
> Jack Iverson K0EWU jackiv@juno.com  
> ARRL, IEEE LM, RCA, AMI, ARCI, QCWA  
>  
> On Sun, 04 Apr 1999 09:00:47 -0400 Maurice Weinschenker  
> <morry@ix.netcom.com> writes:  
> >STILL TRYING TO CLEAN ATTIC ETC. HVE A FAIR NUMBER OF TUBES SUCH AS  
> >813,4-125,4-1000,304TL ETC. U GET THE IDEA. IS THEIR AN EASY WAY TO DO  
> >SOME KIND OF STATIC TEST ON THESE TUBES?????????????????  
> >MNY TNX IN ADVANCE  
> >BEST 73 MORRY K3DPJ  
> >  
> >  
> >  
> -----  
> You don't need to buy Internet access to use free Internet e-mail.  
> Get completely free e-mail from Juno at <http://www.juno.com/getjuno.html>  
> or call Juno at (800) 654-JUNO [654-5866]  
>  
>

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Message-ID: <37079D18.DD55829F@idirect.com>  
Date: Sun, 04 Apr 1999 13:10:49 -0400  
From: Jerry Proc <jproc@idirect.com>  
MIME-Version: 1.0  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: Re: Fun with the Eddystone  
Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit

Morris Odell wrote:

> Now with 4 tubes devoted to  
> audio you'd expect something pretty nice, but what you get is 4  
> relatively expensive tubes labouring away to produce....3 watts! And 3  
> pretty crappy watts at that - the output transformer is very tiny.

Hi Morris,

Some food for thought.

Have you been able to locate anyone else with an identical receiver in order to compare notes about audio quality? If two units sound lousy, then it's likely poor circuit design. If only your unit sounds bad, it might mean that

the circuit once produced good audio quality but something has degenerated. What about that undersize audio transformer - Is there any chance, it went defective in the past and was replaced with the wrong sized unit? After reading about the other indignities done by previous owner, this is not out of the realm of possibility.

> I'm not going to do that  
> as it works OK but I'm dreading having to replace a 6BR7 - they are  
> quite dear. I think one of them is on the way out unfortunately.

Can you install or fabricate a socket-to-socket converter and use a more commonly available tube with similar characteristics? You might even improve the design in the process :-)  
--

Regards,  
Jerry Proc VE3FAB jproc@idirect.com  
Web: [www3.sympatico.ca/hrc/haida](http://www3.sympatico.ca/hrc/haida)  
HMCS HAIDA Historic Naval Ship, Toronto Ontario

-----  
From: W4UOC@aol.com  
Message-ID: <95b5bada.2438fe97@aol.com>  
Date: Sun, 4 Apr 1999 13:42:47 EDT  
Subject: DX-100 Fixed  
To: Old Tube Radios <boatanchors@theporch.com>  
MIME-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
Content-Transfer-Encoding: 7bit

Well, I though I should tell you, since you gave me so much direction on the DX-100 fix, that it is fixed and working fine. Actually I had two problems... the high resistance short in the tube socket and a bad "new" coupling cap between the first and second audio stages.

Now I get 10 vdc on pin 1 as I should and 0 on pin two.

Thanks for the help and multiple conference calls.

Tom - W4UOC

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Message-ID: <007601be7ec4\$0e3078a0\$a20adfd0@kingwoodcable.com>  
From: k5jv@von1.com (Lon W. Cottingham)  
To: Old Tube Radios <boatanchors@theporch.com>

Subject: to be or not to be  
Date: Sun, 4 Apr 1999 12:53:31 -0500  
MIME-Version: 1.0  
Content-Type: text/plain;  
charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

Greetings to all,

I goofed! The ARR-41 AM filter that I referenced in my earlier post should say 9.4 Khz not 9.3 Khz. The filter is actually an F500F94 526 9216009. I can not tell you what the shape factor is because it was a special order filter and does not appear in any of my data. If any of you have data on this filter, I would really appreciate a copy.

My source for this filters was Fair Radio Sales. They were selling them for \$25 two years ago. I bought all they had at the time. I understand that they have them again. Do not be surprised if the price has gone up. It usually does when people show interest. Good luck and have fun.

73 de Lon Cottingham, K5JV

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Message-Id: <199904041809.LAA05628@mail-gw6.pacbell.net>  
From: "Arden Allen" <gumbear@pacbell.net>  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: Re: Line Voltage  
Date: Sun, 4 Apr 1999 11:09:59 -0700  
MIME-Version: 1.0  
Content-Type: text/plain; charset=ISO-8859-1  
Content-Transfer-Encoding: 7bit

Hi Richard and ship's company;

> .....Someone around here pointed out that you can do more to keep your  
radio  
> running cool by replacing all those leaky antique caps and way-off  
> drifty carbon comp resistors. Both contribute to excessive B+ loading.  
....

Well, yes and no. To be more specific, a leaky plate-grid coupling cap could cause decreased grid bias (positive leakage reducing negative bias voltage) which will cause increased plate current in the tube. Let's take an example of a gross leakage causing bias to be shifted by 1 volt. A grid resistor of 500K would have to see 2uA of leakage current. A plate voltage of 150 volts would cause that much current in a capacitor that had an

insulation resistance of  $150 / 2e-6 = 75$  megohms (a good cap should be several thousand megohms). The power dissipated in the capacitor is  $150 * 2e-6 = 300$  microwatts. Not much power being wasted. But the tube's plate current may have increased 10 milliamps (in the case of an audio output tube) which, operating from a 250 volt B+, the power dissipation will have increased  $250 * d10e-3 = d2.5$  watt (the little d stands for 'a change of') causing increased power consumption and putting additional strain on the tube and power supply.

But, as life is full of contradictions, so are radios. In the case of a leaky screen grid bypass capacitor, screen grid voltage will decrease as the result of increased current in the screen dropping resistor. The screen grid, having nearly the same control effect as the control grid, will cause tube current to decrease therefore lightening the load on the tube and power supply.

I don't know of any reported cases of paper or film capacitors increasing their insulation resistance over time but we all know of the way electrolytic capacitors leakage current decreases as dielectric formation occurs in a 'lytic that has not been in use for a long time.

Carbon composition resistors, in most cases, do not suffer significant increases in their power dissipation but in the case where they affect grid bias the result can be the same as in the example above. Carbons' values will change in either direction. Lower values (100's to 1000's ohms) often decrease in value especially when being operated near their rated dissipation. High value resistors (100K's to 10's megs) often increase in value just from chemical changes that have been attributed to moisture absorption. A cathode self-biasing resistor decreasing in value will cause increased current flow. On the other hand, a higher value screen dropping resistor may increase in value causing decreased current.

When components change value so much that a puff of smoke and silence is the result the solution is obvious. When components shift in value the result is usually not so obvious improper performance.

There are two ways to deal with this dilemma: Change all of the parts or measure directly or indirectly the values (ohms for resistor values and ohms for capacitor leakage). A good rule to follow is, if a capacitor causes a change of approximately 1% or greater in operating voltages (assuming all voltages appear to be normal) with a significant change in temperature (by cooling it with a freeze spray) it is a candidate for replacement although it may never cause improper operation. Current flow in a grid resistor can be caused either by capacitor leakage or by grid emission. Pull the tube when checking control grid voltage. While the tube is out check to see if there is a voltage drop on a screen dropping resistor (don't forget to account for the loading effect of your voltmeter) indicating a leaky screen bypass.



In the case of suspected tank circuit capacitors (such as micas) where leakage can cause instability and degradation of Q you will have to disconnect the capacitor from the circuit to measure leakage. Problem caps can often be flushed out with freeze spray.

Save yourself a lot of silly and unnecessary work, avoid accidentally damaging delicate components and become a better trouble-shooter. Diagnosing faulty parts is not so difficult if you practice your Ohm's Law and use a good high input resistance voltmeter. Happy egg hunting!

Arden Allen KB6NAX Vallejo, CA gumbear@pacbell.net

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End of BOATANCHORS Digest 2490  
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